BTEC Assignment Brief

Qualification	Pearson BTEC International Level 3 Subsidiary Diploma in Construction and the Built Environment Pearson BTEC International Level 3 Foundation Diploma in Construction and the Built Environment Pearson BTEC International Level 3 Diploma in Construction and the Built Environment Pearson BTEC International Level 3 Extended Diploma in Construction and the Built Environment Pearson BTEC International Level 3 Diploma in Civil Engineering Pearson BTEC International Level 3 Extended Diploma in Civil Engineering Pearson BTEC International Level 3 Diploma in Building Services Engineering Pearson BTEC International Level 3 Extended Diploma in Building Services Engineering
Unit number and title	**Unit 7: Graphical Detailing**
Learning aim(s) (For NQF only)	**Learning A:** Understand the resources required to produce construction drawings. **Learning B:** Develop construction drawings for a given construction brief
Assignment title	
Assessor	
Issue date	
Hand in deadline	

Vocational Scenario or Context	You are employed as a trainee Computer Aided Design (CAD) technician with a medium sized design company. The company is involved in a variety of design projects that require different construction drawings to be produced. The senior designer has asked you to produce a portfolio of quality drawings using standards and conventions as laid down in BS 1192:2007 for a two-storey building. The designer would like you to become familiar with the media, equipment and techniques needed for manual drawing and the techniques and requirements for CAD drawings. The designer would like you to use both manual and CAD techniques to produce the portfolio. The designer is keen to measure the impact of CAD against manual drawing methods. The designer has asked you to appraise both methods in terms of equipment needed, productivity and price. You will need to research the advantages and disadvantages of both manual and CAD drawing methods.

Task 1	You have been asked by the senior designer to use your research to assist new employees by producing either a booklet or a presentation that considers the media, equipment and techniques needed for both manual and CAD drawings and identifying benefits and drawbacks of both methods. In addition, you must produce a portfolio of manual and CAD drawings for a two-storey building.

Client Brief
A client has asked you to produce construction drawings for a new, traditionally constructed, 3/4 bedroom detached two storey house as detailed below. The work may be produced using manual techniques, CAD or a mix of both.

Total Floor Area (140 m^2)

Ground Floor
- Kitchen
- Dining Room
- Living Room
- Cloakroom and toilet
- (optional sunroom)

First Floor
- Master Bedroom (1)with en-suite
- Double Bedroom (2)
- Double Bedroom (3)
- Single Bedroom (4)/Study
- Bathroom with Hot Press
- Circulation space as required.

Produce a portfolio of construction drawings to include:
- site plan requirements
- two-storey building plans
- elevations
- cross-section drawing
- component or detail drawing
- structural drawings showing general arrangements
- preliminary sketch drawing.

Your drawings should:
- be consistently neat and tidy
- be precise and technically accurate
- be drawn to an appropriate scale
- have clear and accurate dimensioning
- have clear and correct annotations
- make appropriate use of correct lines, fill patterns and symbols

To do this:
Using the client brief provided:
- Explore the media, equipment and techniques used for manual drawing
- Research the graphic conventions and standard symbols in accordance with British Standard BS 1192:2007.
- Identify the hardware and software requirements for CAD
- Research CAD techniques used to produce 2D and 3D drawings.
- Compare the advantages and disadvantages of

	manual and CAD drawing techniques. • Investigate the range of construction drawings used to provide information such as site plans, elevations, cross-sections, etc. following BS 1192:2007 standards and conventions • Practice the skills and techniques identified for producing both manual and CAD drawings • Produce a portfolio of construction drawings for a two-storey building using both manual and CAD drawing techniques. **You then need to:** Use your research to produce an illustrated technical booklet or presentation that appraises manual and CAD methods and techniques and includes images and sketches of the equipment. The booklet or presentation should also compare all of the aspects of both drawing methods to include the benefits and drawbacks of each method. Using the client brief for a two-storey building apply the skills you have developed to produce a portfolio of manual and CAD construction drawings following the standards and conventions of BS 1192:2007.
Checklist of evidence required	Evidence must include: A booklet or presentation scrutinizing manual and CAD drawing techniques. It should include photographs, notes and sketches made during the investigation of the media equipment and techniques. The booklet or presentation should justify the relevancy of the equipment and techniques being used. A portfolio of manual and CAD construction drawings following the standards and conventions of BS1192:2007.These will be fully annotated and referenced appropriately. Tutor observation records will be required to support evidence of practical and skills based activities recorded in your portfolio.

Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria you must show that you are able to:
7/A.D1	Evaluate the use of manual and CAD methods to produce drawings for a given building in terms of their resource requirements, efficiency and cost.
7/B.D2	Produce high-quality, fully annotated construction drawings for a two-storey building drawn accurately to an appropriate scale, containing detailed technical information following BS 1192:2007 standards.
7/A.M1	Analyse the use of manual and CAD methods to produce drawings for a given building in terms of their resource requirements, efficiency and cost.
7/B.M2	Produce good-quality construction drawings for a two-storey building

	drawn accurately to an appropriate scale, containing appropriate technical information following BS 1192:2007 standards.
7/A.P1	Explain the use of media and equipment to produce manual drawings for a given building
7/A.P2	Describe the resources required to produce CAD drawings for a given building.
7/A.P3	Compare manual and CAD methods for the production of drawings in terms of their resource requirements, efficiency and cost.
7/B.P4	Produce construction drawings for a two-storey building drawn to an appropriate scale, containing some technical information following BS 1192:2007 standards.
Sources of information to support you with this Assignment	**Textbooks** BTEC National Construction Student Book ISBN 9781292184043 Ching, F. "Architectural Graphics" 6th Edition. 2015 Published by John Wiley and Sons. ISBN 978-1-119-03566-4. This book provides an excellent introduction to using graphic tools and drafting conventions. Reekie, F. "Reekie's Architectural Drawing" 4th Edition 1995 Published by Architectural Press ISBN 978-0-415-50296-2 This book introduces beginners to a wide range of traditional drawing techniques. John, E "CAD Fundamentals for Architecture" Published by Laurence King Publishing ISBN 978-178067-282-3 This book explains the key CAD skills required to create plans, 3D models and perspectives. CADfolks "AutoCAD 2017 for Beginners" This book provides a solid base in design and drafting. **Websites** www.bre.com Building Research Establishment Limited www.ciat.org.uk Chartered Institute of Architectural Technologists www.ciob.org.uk Chartered Institute of Building **Above are examples of websites. Further useful resources may be found at** qualifications.pearson.com/en/support/published-resources.html
Other assessment materials attached to this Assignment Brief	*N/A*